

REMARKS

The application includes claims 1-24 prior to entering this amendment.

The Examiner rejected claims 1, 2, 4, 5, 7, and 8 under 35 U.S.C. § 103(a) over Lee *et al.* (U.S. Patent 6,178,015) in view of Selby (U.S. Patent 5,404,232) and further in view of Irie *et al.* (U.S. Patent 5,644,409).

The Examiner rejected claims 3, 6, and 9 under 35 U.S.C. § 103(a) over Lee in view of Selby and further in view of Irie as applied to claim 1 above, and further in view of Horiuchi *et al.* (U.S. Patent 6,445,469).

The Examiner rejected claims 10-14, 16, 17, and 19 under 35 U.S.C. § 103(a) over Sheng *et al.* (U.S. Patent 6,753,982) in view of Seachman *et al.* (U.S. Patent 5,621,217) and further in view of Horiuchi.

The Examiner rejected claims 15, 18, and 20-24 under 35 U.S.C. § 103(a) over Sheng in view of Seachman and further in view of Horiuchi as applied to claim 10 above, and further in view of Lee.

The application remains with claims 1-24 after entering this amendment.

No new matter has been added and reconsideration is respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claim 1 recites:

*... scanning a continuous longitudinal black pattern while scanning the document to determine a correctional gray level value for complete black;
scanning a continuous longitudinal white pattern while scanning the document to determine a correctional gray level value for complete white ...*

The Examiner acknowledges that Lee does not disclose scanning a continuous longitudinal white pattern as recited in claim 1. However, the Examiner alleges that Selby teaches scanning a continuous longitudinal black pattern while scanning a document and scanning a continuous longitudinal white pattern while scanning the document.

The rejection is respectfully traversed.

Referring to FIG. 4 of Selby, a white test strip 30 and a black test strip 32 are located above a sheet S. The path of a shuttle 14 that carries a lamp 12 is shown by an arrow at the

bottom of FIG. 4. FIG. 5 of Selby shows in more detail the interrelationship between the photo-sensor in array 20 and the test strips 30 and 32 (col. 4, lines 15-17) and confirms that the black and white test strips 30 and 32 are both positioned at the top of platen 10 above the sheet S.

Since the white test strip 30 and the black test strip 32 are located above the document S at the top of a scanning path, neither the white test strip 30 nor the black test strip 32 can be scanned while scanning document S, much less both as recited in claim 1.

Irie shows a white reference plate 24 that extends in a direction orthogonal to a direction of conveyance of the document conveying path (FIG. 2, col. 6, lines 58-66). For a similar reason as explained above for Shelby, Irie also cannot scan a continuous longitudinal black pattern while scanning a document. Much less scan a continuous longitudinal black pattern and a continuous longitudinal white pattern while scanning a document as recited in claim 1.

In Irie, the orthogonal direction of the reference plate 24 with respect to the conveyance direction of a document prevents the reference plate 24 from being scanned while scanning a document as recited in claim 1. It simply would not make sense to have the longitudinal direction of the reference plate 24 be orthogonal to the direction of the conveyance of a document and then try to scan both the reference plate and the document at the same time. Accordingly, claim 1 is patentable under 35 U.S.C. § 103(a) over Lee in view of Selby and further in view of Irie.

Claim 2 recites:

... wherein the longitudinal black pattern is positioned along a lateral side of the scanning platform and extends continuously along substantially an entire length of the scanning path and wherein the longitudinal white pattern is positioned laterally adjacent to the longitudinal black pattern and extends continuously along substantially the entire length of the scanning path ...

The Examiner alleges that this is taught in Lee. This rejection is also respectfully traversed. Lee in FIG. 1 shows an optical ruler 103 that includes alternating black blocks 105 and white blocks 106. A scanned document faces a transparent window 103 and is scanned in a scan direction 104 (col. 2, lines 37-44) along the alternating black and white blocks of optical ruler 103 (FIG. 1).

Since the black and white blocks 105 and 106 alternate along the scanning path direction 104 (FIG. 1), neither the black blocks 105 nor the white blocks 106 can extend continuously along substantially an entire length of the scanning path as recited in claim 2. Thus, Lee actually teaches away from the elements recited in claim 2.

Claim 10 recites:

... a scanning platform disposed at the top portion, the scanning platform configured to support a document above the scanning element;

a reference pattern disposed on the surface of the top portion adjacent to the scanning platform and elongated in the document scanning direction . . .

The Examiner acknowledges that Shang does not disclose a reference pattern elongated in the document scanning direction as recited in claim 10. However, the Examiner alleges that Seachman teaches a reference pattern adjacent to the scanning platform and elongated in the document scanning direction.

This rejection is respectfully traversed.

FIG. 1 of Seachman shows a calibration strip 3 positioned in parallel with the lamp 1 and the sensor 7. The direction of scanner movement in Seachman therefore moves perpendicular to the longitudinal direction of tag 5 and calibration strip 3 (Col. 2, lines 52-57; col. 4, lines 49-59). Because, the lengthwise direction of the calibration strip 3 in Seachman is orthogonal to the direction of scanner movement, Seachman teaches away from a reference pattern elongated in a document scanning direction as recited in claim 10.

Also with respect to claim 10, the Examiner alleges that Houiuchi teaches:

determine actual gray level values for pixels of a scanned image of the document;

determine a compensational gray level value for the pixels of the scanned image based at least in part on the reference pattern; and

compensate the scanned image using the compensational gray level value, as recited in claim 10.

Houiuchi explains at col. 12, line 50 that a device separately extracts components of scanning speed fluctuations by reading variations of the optical density of respective reference

scale lines and analyzes the speed fluctuations state of the scanning means when scanning an image in the feed direction to eliminate the possibility of image blur due to an unstable driving mechanism. Horiuchi at col. 13, line 45 states that corrected data is used only for determining the conditions of the speed fluctuation analysis. In other words, Horiuchi scans a black and white chart 17 (FIG. 8) only for adjusting the speed of a scanning device.

Any analysis in Horiuchi is performed on the data obtained from a chart image 17 (FIG. 8, col. 9, lines 3-6), not on grey level values of a scanned document as recited in claim 10. Horiuchi never compensates the grey level values of a document, much less compensate the document grey level values of the document based at least in part on a reference pattern as recited in claim 10

Accordingly, claim 10 is patentable under 35 U.S.C. § 103(a) over Sheng in view of Seachman and further in view of Horiuchi. Claim 19 includes at least some of the same elements as claim 10 and is therefore patentable for at least some of the same reasons.


CONCLUSION

For the foregoing reasons, the applicants request reconsideration and allowance of claims 1-24. The Examiner is encouraged to telephone the undersigned if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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